

REMARKS

I. Introduction

Claims 55 to 126 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

II. Rejection of Claims 55-126 Under 35 USC §102(b)

Claims 55-126 were rejected under 35 U.S.C. 102(b) as anticipated by German Patent No. 3435883 ("Heilmann et al."). Applicants respectfully submit that Heilmann et al. do not anticipate the present claims for the following reasons.

Claims 55, 69, 83, 97, 110 and 121 relate to, or recite the feature of, an end cap for a filter device. These claims have been amended herein without prejudice to recite that the curved members extend away from an interior surface of the end cap in a direction that is the same as the first generally axial direction. Support for this amendment can be found, for instance, in Figure 12, which illustrates the ribs 14 extending away from an interior surface of the end cap 30 and towards the hollow fiber bundle, e.g., extending in a direction that is the same as the "first" direction as recited in the claim.

In addition, claims 68, 82, 96, 109 and 120 relate to, or recite the feature of, an end cap for a filter device. These claims have been amended herein without prejudice to recite that curved members extend away from an interior surface of the end cap in a direction that is the same as a first direction, a channel defining a fluid flow path in this first direction. Support for this amendment can be found, for instance, in Figure 12, which illustrates the ribs 14 extending away from an interior surface of the end cap 30 and towards the hollow fiber bundle, e.g., extending in a direction that is the same as the direction of the fluid flow path defined by the channel.

It is respectfully submitted that Heilmann et al. do not anticipate the present claims for at least the reason that Heilmann et al. fail to disclose, or even suggest, all of the claimed features of each claim. For instance, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, a portion of a channel defining a fluid flow path in a first generally axial direction and members extending away from an interior surface of the end cap in a direction that is the same as the first generally axial direction as recited in claims 55, 69, 83, 97, 110 and 121. Furthermore, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, members extending away from an interior surface of the end cap in a direction that is the same as a first direction, a channel defining a fluid flow path in this first direction as recited in claims 68, 82, 96, 109 and 120. Furthermore, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, at least one member defined by an interior surface of the interior chamber of the end cap as recited in claim 124.

In contrast, Heilmann et al. disclose in Figures 1 to 3 a flat, perforated disk 46 that is interposed between the inlet side 28 of an end cap 30, e.g., having a neck 26, and an outlet side 32 of the end cap 30, e.g., in which a filter element 20 is located. The flat disk 46 has guiding means 50 located on a surface facing the inlet side 28 of the end cap 30. The Office Action states that “[w]ith regard to the first generally axial and second flow directions, the flow direction is axial at the inlet at 28, and then changes to radially outward through the curved members and then changes to radially inward under the members 46.” Office Action at page 3. The Office Action also states that “[w]ith re to the curved members being extending in the first direction away from an interior surface, the vanes extend from an interior surface (46) of the end cap in the axial direction.” Office Action at page 3. As shown in Figure 1 and 3, the flat perforated disk 56, and thus the guiding means 50 disposed on the surface of the perforated disk 46, are spaced apart from the interior surface of the interior chamber of the end cap. Therefore, these guiding means 50 do not extend from an interior surface of the end cap, but rather extend from the flat disk 56. Therefore, these guiding means extend towards the interior surface of the end cap, not away from it. Even if the perforated disk 46 could be considered an interior surface of the end cap as contended in the Office Action (which for the above-stated reasons it should not be), these guiding means 50 do not extend away from an interior surface of the end cap in a direction that is the same as the direction at which fluid enters the end cap. Rather, these guiding means 50 extend in a direction that opposite to the direction at which fluid enters the end cap. Furthermore, these guiding means 50 are not defined by an interior surface of the interior chamber of the end cap as recited in claim 124, but rather are disposed on the flat disk 56.

To anticipate a claim, each and every element as set forth in the claim must be found in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). That is, the prior art must describe the elements arranged as required by the claims. In re Bond, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). As more fully set forth above, it is respectfully submitted that Heilmann et al. do not disclose, or even suggest, all of the features recited in claims 55, 68, 69, 82, 83, 96, 97, 109, 110, 120, 121 and 124.

All of the remaining claims ultimately depend from and include all of the limitations of a respective one of the above-mentioned independent claims. It is respectfully submitted that Heilmann et al. do not anticipate any of these dependent claims for at least the same reasons given above in support of the respective independent claims.

III. Rejection of Claims 55-67, 69, 70, 71, 76-81, 83-95, 97-99, 101, 104-108, 121 and 124 Under 35 USC §102(b)

Claims 55-67, 69, 70, 71, 76-81, 83-95, 97-99, 101, 104-108, 121 and 124 were rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 4,885,089 (“Hankammer”). Applicants respectfully submit that Hankammer does not anticipate the present claims for the following reasons.

It is respectfully submitted that Hankammer does not anticipate the present claims for at least the reason that Hankammer fails to disclose, or even suggest, all of the claimed features of each claim. For instance, it is respectfully submitted that Hankammer fails to disclose, or even suggest, a channel that defines a fluid flow path in a generally axial direction as recited in claims 55, 69, 83, 97, 121 and 124. In contrast, Hankammer describes “[a] distributor cap [that] consists essentially of the umbrella-shaped bottom section 15, the vanes 4 mounted beneath, and the hollow cone 9 acting as handle and vent.” Col. 4, lines 3-6. The Office Action states that “Hankammer teaches an end cap for a filter ... comprising a generally axial inlet flow path (9).” Office Action at page 4. Thus, the Office Action identifies the hollow cone 9 as a generally axial inlet fluid flow path. However, this hollow cone 9 does not provide a channel that defines a fluid flow path in a generally axial direction because the hollow cone 9 is a vent which acts as an outlet for air. Specifically, Hankammer states that “FIG. 2 also shows the central venting duct 11 of the hollow cone 9,” col. 4, lines 9-10, and most importantly, that “[v]enting duct 11 has the function of venting the sealing screen 2 and hollow cone 10.” Col. 4, lines 45-47, emphasis added. Thus, the hollow cone 9 does not function as a fluid flow path. This is further evidence by Hankammer’s statement that “[i]t is clearly evident from FIGS. 1 to 3 that a water jet arriving from above cannot impact directly on sealing screen 2 and the filter material beneath it, which would otherwise result in flow channels forming in the filtering material.” Col. 4, lines 23-27. Rather, fluid enters the device of Hankammer from the sides of the device. For instance, Hankammer states that “[t]he water arriving on umbrella-shaped bottom section 15 flows down the sides and then penetrates into the intermediate spaces between vanes 4 under distributor cap 3 and thus reaches the screening apertures of the sealing screen 2.” Col. 4, lines 29-33.

As for claims 56-67, 70, 71, 76-81, 84-95, 98-99, 101 and 104-108, each of which ultimately depends from and include all of the limitations of a respective one of independent claims 55, 69, 83 and 97, it is respectfully submitted that Hankammer does not anticipate these dependent claims for at least the same reasons given above in support of the patentability of claims 55, 69, 83 and 97.

IV. Rejection of Claims 55-67, 69-81, 83-95, 97-108, 110-119 and 121-126 Under 35 U.S.C. § 103(a)

Claims 55-67, 69-81, 83-95, 97-108, 110-119 and 121-126 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 4,201,673 (“Kanno et al.”) in view of Hankammer. Applicants respectfully submit that the combination of Kanno et al. and Hankammer does not render obvious the present claims for the following reasons.

For example, it is respectfully submitted that the combination of Kanno et al. and Hankammer does not render obvious the present claims because a person of ordinary skill in the art would not have been motivated to combine the teachings of Kanno et al. and Hankammer. For instance, and as set forth above, the hollow cone 9 of Hankammer is a vent which acts as an outlet for air. Thus, fluid is not conveyed to the filter arrangement of Hankammer via the hollow cone 9, but rather “[t]he water arriving on umbrella-shaped bottom section 15 flows down the sides and *then* penetrates into the intermediate spaces between vanes 4 under distributor cap 3 and thus reaches the screening apertures of the sealing screen 2.” Col. 4, line 29-33, emphasis added. In contrast, the sides of the device in Kanno et al. are closed and do not permit fluid flow. Thus, a person of ordinary skill in the art would not have been motivated to use the arrangement of Hankammer in the device of Kanno et al. because the device of Kanno et al. is not suitable to permit fluid flow in the manner in which fluid flows in Hankammer, i.e., through the sides of the device.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

For the foregoing reasons, it is respectfully submitted that the combination of Kanno et al. and Hankammer do not render unpatentable claims 55-67, 69-81, 83-95, 97-108, 110-119 and 121-126.

V. **Conclusion**

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Dated:

Respectfully submitted,

KENYON & KENYON

By: *Am. T. Hughes* (Reg. No. 47,598)
for Thomas C. Hughes
Thomas C. Hughes
Reg. No. 42,674

One Broadway
New York, New York 10004
(212) 425-7200